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COVER PHOTO. One of the few large (5.5+ m total length) Saltwater crocodiles (*Crocodylus porosus*) sighted during recent surveys in Bhitarkanika Wildlife Sanctuary, Orissa, India (see pages 9-10). Photo: Kamal Purohit.

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focusing on immaterial benefits such as pride, interest and enjoyment, which prove to be strong motivational factors even for poor rural communities to protect wildlife.

We think that under current conditions only conservation programs which aim to develop community-based ecosystem approaches in which wetlands are being locally protected and managed for the benefit of people and crocodiles could offer a future for the Philippine crocodile (and perhaps also the other threatened crocodylians of Southeast Asia) in the wild.

Merlijn van Weerd and Jan van der Ploeg, *CROC team leaders, CROC Project Mabuwaya Foundation, EIC Building, ISU Campus Garita, Cagayan, Isabela, Philippines*, <vanweerd@cml.leidenuniv.nl, vanderploegjan@pacific.net.ph>

PHILIPPINE CROCODILE RECORDED ON DALUPIRI ISLAND. A small population of the critically endangered Philippine crocodile *Crocodylus mindorensis* has been found on Dalupiri Island, in the extreme north of the Philippines. A team composed of researchers from Isla Biodiversity Conservation, the Palawan Wildlife Rescue and Conservation Center (PWRCC) and the Crocodile Rehabilitation, Observance and Conservation (CROC) Project found the species while conducting surveys on 14-21 May 2005 on the islands of Dalupiri and Fuga of the Babuyan group of islands.

An adult female (2.17 m total length) was captured at Caucauayan Creek, a 300 m long freshwater creek flowing over limestone. The presence of six post-occipital scutes and 25 transverse ventral scale rows identifies the animal as *C. mindorensis* (Figs. 1 and 2). The crocodile was immediately released after staff of the PWRCC cut tail scutes (corresponding to an identification number of 12/3/3) and collected tissue samples. Analysis of the tissue collected will provide more information on the relationship of the Babuyan Philippine crocodile sub-population with conspecifics from other island.

The confirmed presence of *C. mindorensis* on this small northern island is remarkable, as it shows that this species was once widely distributed throughout the archipelago from south to the extreme north. *C. mindorensis* is currently known to occur only in small populations on Luzon, Mindanao, and perhaps Negros (Van Weerd and van der Ploeg 2003) and has not been previously recorded north of Luzon. Crocodiles have been sighted on Dalupiri Island in the Manolong River (Ross calls it "Manulong") as early as 1990 but they were not identified to species (Ross 2005). In 2004, a team co-led by CO sighted a crocodile on the island in Caucauayan Creek but its identity was not ascertained (Oliveros *et al.* 2004). This year's survey was conducted in order to verify the identity of the crocodiles on Dalupiri, and to verify the reported presence of

crocodiles on Fuga Island. In addition, the abundance and distribution of crocodylian populations on both islands were investigated.



Figure 1. Row of 6 enlarged post-occipital scutes. Photograph: Rainier Manalo.

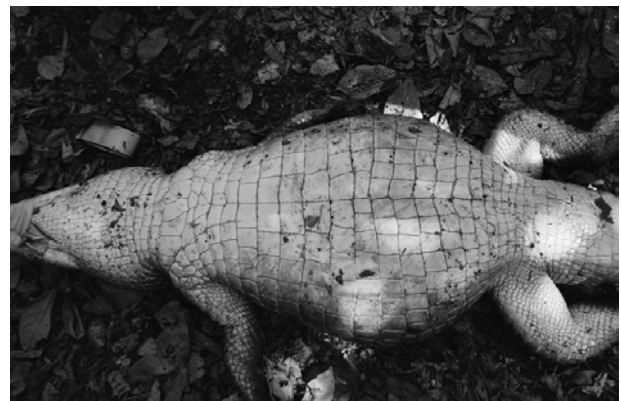


Figure 2. Crocodile, showing 25 ventral scale rows. Photograph: Carlos Oliveros.

There appears to be a breeding population of the species on Dalupiri. Tracks of two smaller individuals, which we believe were made by a juvenile and a hatchling, were found along Caucauayan Creek. The captured female was carrying eggs and was approximately one to two weeks from parturition, which shows that she could still be capable of breeding. No tracks or eyeshines were observed along the Manolong River and Nipa Creek, which were briefly surveyed. On the island of Fuga, crocodiles disappeared more than a decade ago, mainly due to hunting and habitat loss, according to residents. Other islands of the Babuyan group were visited for biodiversity surveys in 2004 and there are no indications that crocodiles might still occur on these islands.

Dalupiri Island, situated 40 km north of Luzon, occupies an area of 50 square km. Most of this privately-owned island is covered by grassland and scrub, and is used as a

cattle ranch. Forest grows along gulleys, streams and in the north-western region of the island. A small community of 555 inhabitants resides on the island.

Local residents claim that crocodiles previously occurred in higher numbers on the island, until they were hunted in the 1970s and 1980s by skin merchants from Luzon. Anecdotal reports mention that 3-10 animals were taken from Manolong River while another two were caught in Nipa Creek. Caucauyan Creek was reportedly not visited by hunters. Crocodile sightings were made at Bumaro Creek around 1975, and at Cabitangaan Creek as late as six years ago. It seems crocodiles were once widely distributed on the island.

We examined a tooth collected by a resident from a dead crocodile at Makmak-ruoy at the northern tip of the island around 1989, although it is possible that this tooth was from an Estuarine crocodile *C. porosus* because it was found near the coast. Crocodiles that residents say used to be washed along the seashore during strong typhoons were also possibly *C. porosus*. There are no indications, however, that *C. porosus* is (still) present in the island or the entire island group.

We showed a television documentary on crocodile conservation and conducted a brief community consultation at the main community center of Dalupiri. We also distributed posters advocating Philippine crocodile and wetland conservation to members of the community and local officials. Local leaders expressed support for the conservation of the Philippine crocodile on the island. Members of the community who were interviewed were mostly supportive but some showed indifference or fear of crocodiles.

Dalupiri Island could be an important site for *in-situ* conservation of the Philippine crocodile. Further studies are being planned to determine any appropriate intervention required to help the crocodile population recover on the island. Consultations with stakeholders, especially with the local community and the island's owners, together with awareness-raising activities are recommended to strengthen their support and develop ownership in the conservation effort.

It also supports the idea that *C. mindorensis* is able to move considerable distances through sea and thus colonize small isolated islands, as it did the islands of Busuanga and Jolo.

The crocodile survey in May was made possible by a grant from Melbourne Zoo, through the support of Chris Banks.

Literature

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REVISED PHILIPPINE CROCODILE RECOVERY PLAN PUBLISHED. The second edition of the "National Recovery Plan for the Philippine Crocodile, *Crocodylus mindorensis*, 2005-2008", was published in April 2005 by the Philippines Department of Environment and Natural Resources - Protected Areas and Wildlife Bureau, and Zoos Victoria.

This Plan follows the format of the first version published in 2000, but reflects the significant developments that have occurred since, particularly: confirmation of the species in the Northern Sierra Madre region of north-east Luzon Island and the subsequent *in-situ* conservation program; the increase in US institutions contributing to the captive population; operational and management changes at the Palawan Wildlife Rescue and Conservation Centre (previously the Crocodile Farming Institute and holder of the largest single captive group of crocodiles); and, the importance of clarifying the population genetics of the species.

Zoos Victoria continues to be a major supporter of the conservation program in the Philippines, including funding of field surveys on the Babuyan Islands and upgrading of an educational display near San Mariano, and participation in the second regional conservation workshop at Isabela State University in 2004.

The Plan was written by Chris Banks, as International Co-ordinator on the Philippine Crocodile National Recovery Team, and all printing costs were covered by ZV. A very limited number of hard copies of the Plan are available (from Chris Banks, address below), but a pdf version of the plan can be downloaded from the Zoos Victoria website (www.zoo.org.au).

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